

IN THE CLAIMS:

Please add new Claim 13 and amend Claims 1 and 2 as follows. A copy of amended Claims 1 and 2 showing the additions and deletions in accordance with 37 C.F.R. §1.121(c)(1)(ii) is attached hereto.

1. (Amended) A furnace for cracking hydrocarbon feed to produce olefins, said furnace comprising:

(a) at least one fired radiant chamber, wherein said radiant chamber is divided into at least two separate independent radiant zones by a fired radiant chamber dividing means;

(b) at least one radiant burner in each said zone of said fired radiant chamber;

(c) a convection chamber in direct communication with said fired radiant chamber;

(d) at least one independent process coil for each said separate independent radiant zone, wherein each said independent process coil extends through at least a portion of said convection chamber and extends into one of said separate independent radiant zones before exiting said furnace;

(e) a flue for discharging flue gas located at the top of said convection chamber of said furnace;

(f) a means for independently controlling the radiant burners in each said separate independent radiant zone.

2. (Twice Amended) A furnace for cracking hydrocarbon feed to produce olefins, said furnace comprising:

(a) at least two fired radiant chambers, wherein each said fired radiant chamber is divided into at least two separate independent radiant zones by a fired radiant chamber dividing means;

(b) at least one radiant burner in each said zone of said fired radiant chamber;

(c) a convection chamber in direct communication with each said fired radiant chamber;

(d) at least one independent process coil for each said separate independent radiant zone, wherein each said independent process coil extends through at least a portion of said convection chamber and extends into one of said separate and independent radiant zones before exiting said furnace;

(e) a flue for discharging flue gas located at the top of each said convection chamber of said furnace; and

(f) a means for independently controlling the radiant burners in each said separate independent radiant zone.

8. (Twice Amended) A furnace as defined in Claim 1 wherein said means for independently controlling the radiant burners in each said separate independent radiant zone comprises a fuel regulator.

13. (New) A furnace as defined in Claim 2 wherein said means for independently controlling the radiant burners in each said separate independent radiant zone comprises a fuel regulator.